

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 20 November 2000 (20.11.00)	
International application No. PCT/US99/24511	Applicant's or agent's file reference PF-0619 PCT
International filing date (day/month/year) 19 October 1999 (19.10.99)	Priority date (day/month/year) 20 October 1998 (20.10.98)
Applicant TANG, Y., Tom et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 16 May 2000 (16.05.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Claudio Borton Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference PF-0619 PCT	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 99/ 24511	International filing date (day/month/year) 19/10/1999	(Earliest) Priority Date (day/month/year) 20/10/1998
Applicant INCYTE PHARMACEUTICALS, INC. et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 6 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.

1A



None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 99/24511

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 19 and 20 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: 17, 18, 20 (completely), 1-16, 19 (all partially)
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1 - 20 all partially

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 17, 18, 20 (completely), 1-16, 19 (all partially)

Claims 17, 18, 20:

Compounds as such are not sufficiently defined by their mode of action. Therefore, claims 17, 18 and consequently claim 20 have not been searched because agonists and antagonist are neither disclosed nor supported within the terms of Art. 5 and 6 PCT, respectively. Example XIV on p. 57 of present description is not suitable to render said claims allowable under Art. 5 or 6 PCT.

Claims 1-20:

The fragments of claim 1 (polypeptide) and claim 9 (polynucleotide), respectively, are not defined by any clear technical (structural or functional) feature (Art. 6 PCT, Art. 84 EPC). A fragment can be as small as one amino acid or one nucleotide, respectively. Due to the infinite number of possible fragments a full search could not be carried out over the whole of the claimed scope. Therefore, the search for claims 1, 9 and 12 and all depending claims has been restricted to the complete sequences defined in the respective SEQ ID Nos.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

1. Claims: Invention 1: claims 1-20 all partially

Polypeptide comprising an amino acid sequence as in SEQ ID NO:1 and subject-matter relating to SEQ ID NO:1.
Polynucleotides encoding the polypeptide of SEQ ID NO:1 such as a polynucleotide comprising a polynucleotide sequence as in SEQ ID NO:20 and subject-matter relating thereto.

2. Claims: Inventions 2-19: claims 1-20 all partially

Idem as subject 1 but limited to each of the polypeptides as in SEQ ID NOs:2-19 and polynucleotides as in SEQ ID NOs:21-38, respectively.

Invention 2 is limited to subject-matter relating to SEQ ID NOs 2 and 21 (amino acid and nucleic acid sequence of PROAP-2), invention 3 to SEQ ID NOs 3 and 22, etc.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/24511

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C07K14/47 C12Q1/68 A61K38/17 C07K16/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K A61K C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GALIANA E ET AL: "Identification of a neural-specific cDNA, NPDC-1, able to down-regulate cell proliferation and to suppress transformation." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1995 FEB 28) 92 (5) 1560-4., XP002133326 figure 2 ---	5
A	DESBARATS, L. ET AL.: "Myc: a single gene controls both proliferation and apoptosis in mammalian cells" EXPERIENTIA, vol. 15, no. 52, December 1996 (1996-12), pages 1123-1129, XP000882427 the whole document --- -/--	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

29 March 2000

Date of mailing of the international search report

10 3. 07. 00

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Herrmann, K

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/24511

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97 45128 A (APOPTOSIS TECHNOLOGY INC) 4 December 1997 (1997-12-04) the whole document ---	
A	WO 98 11256 A (LEVINE BETH C ;UNIV COLUMBIA (US)) 19 March 1998 (1998-03-19) the whole document ---	
A	WO 98 05347 A (YANAGISAWA JUNN ;SATO TAKA AKI (US); UNIV COLUMBIA (US)) 12 February 1998 (1998-02-12) the whole document -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/24511

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9745128 A	04-12-1997	US 5834234 A EP 0910387 A US 6057132 A	10-11-1998 28-04-1999 02-05-2000
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WO 9811256 A	19-03-1998	US 5858669 A AU 4976997 A	12-01-1999 02-04-1998
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WO 9805347 A	12-02-1998	AU 4042497 A CA 2260742 A CN 1230120 A EP 0935467 A	25-02-1998 12-02-1998 29-09-1999 18-08-1999
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TENT COOPERATION TREA

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT 07 AUG 2001

(PCT Article 36 and Rule 70)

WIPO

PCT

Applicant's or agent's file reference PF-0619 PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US99/24511	International filing date (day/month/year) 19 OCTOBER 1999	Priority date (day/month/year) 20 OCTOBER 1998
International Patent Classification (IPC) or national classification and IPC Please See Supplemental Sheet.		
Applicant INCYTE PHARMACEUTICALS, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 0 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 16 MAY 2000	Date of completion of this report 28 JUNE 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer TERRY J. DEY LARRY R. HELMS PARALEGAL SPECIALIST TECHNOLOGY CENTER 1600 Telephone No. (703) 308-0198

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US99/24511

I. Basis of the report1. With regard to the **elements** of the international application:*

- ☒ the international application as originally filed
- ☒ the description:
pages 1-74 , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____
- ☒ the claims:
pages 75-76 , as originally filed
pages NONE , as amended (together with any statement) under Article 19
pages NONE , filed with the demand
pages NONE , filed with the letter of _____
- ☒ the drawings:
pages 1-9 , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____
- ☒ the sequence listing part of the description:
pages 1-41 , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☒ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/fig NONE

5. ☐ This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

**Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been and will not be examined in respect of:

- ☐ the entire international application.
- ☒ claims Nos. 1-16 & 19 (IN PART) AND 17, 18 & 20

because:

- ☐ the said international application, or the said claim Nos. _ relate to the following subject matter which does not require international preliminary examination (*specify*).

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. _ are so unclear that no meaningful opinion could be formed (*specify*).

- ☐ the claims, or said claims Nos. _ are so inadequately supported by the description that no meaningful opinion could be formed.

- ☒ no international search report has been established for said claims Nos. (See Attached).

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

- ☐ the written form has not been furnished or does not comply with the standard.
- ☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. statement**

Novelty (N)	Claims <u>1-4, 6-16 AND 19</u>	YES
	Claims <u>5</u>	NO
Inventive Step (IS)	Claims <u>1-4, 6-16 AND 19</u>	YES
	Claims <u>5</u>	NO
Industrial Applicability (IA)	Claims <u>1-16 AND 19</u>	YES
	Claims <u>NONE</u>	NO

2. citations and explanations (Rule 70.7)

Claim 5 LACKS novelty under PCT Article 33(2) as being anticipated by Galiana et al (PNAS USA 92:1560-4, 1995).

Galina et al teach a DNA that would hybridize under the recited conditions. Thus, claim 5 lacks novelty under PCT Article 33(2) as being anticipated by Galiana et al.

Claims 1-4, 6-16 and 19 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest SEQ ID NO:1.

Claims 1-16 and 19 meet the criteria for PCT Article 33(4) for industrial applicability.

----- NEW CITATIONS -----

NONE

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

CLASSIFICATION:

The International Patent Classification (IPC) and/or the National classification are as listed below:

IPC(7): C12N 15/12; C07K 14/47, 16/18; C12Q 1/68; A61K 38/17 and US Cl.: 530/350; 387.1 536/23.1; 435/6, 325, 326; 424/130.1; 514/2

III. NON-ESTABLISHMENT OF REPORT:

No international search report has been established for claim numbers 1-16 & 19 (IN PART) AND 17, 18 & 20.



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁷ : C12N 15/12, C07R 14/47, C12Q 1/68, A61R 38/17, C07K 16/18</p>	A2	<p>(11) International Publication Number: WO 00/23589</p> <p>(43) International Publication Date: 27 April 2000 (27.04.00)</p>																																																												
<p>(21) International Application Number: PCT/US99/24511</p> <p>(22) International Filing Date: 19 October 1999 (19.10.99)</p> <p>(30) Priority Data:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">60/172,216</td> <td style="width: 40%;">20 October 1998 (20.10.98)</td> <td style="width: 30%;">US</td> </tr> <tr> <td>60/118,559</td> <td>4 February 1999 (04.02.99)</td> <td>US</td> </tr> <tr> <td>60/172,229</td> <td>11 February 1999 (11.02.99)</td> <td>US</td> </tr> <tr> <td>60/154,336</td> <td>22 April 1999 (22.04.99)</td> <td>US</td> </tr> </table> <p>(63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Applications</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">US</td> <td style="width: 40%;">60/172,216 (CIP)</td> <td style="width: 30%;"></td> </tr> <tr> <td>Filed on</td> <td>20 October 1998 (20.10.98)</td> <td></td> </tr> <tr> <td>US</td> <td>60/118,559 (CIP)</td> <td></td> </tr> <tr> <td>Filed on</td> <td>4 February 1999 (04.02.99)</td> <td></td> </tr> <tr> <td>US</td> <td>60/172,229 (CIP)</td> <td></td> </tr> <tr> <td>Filed on</td> <td>11 February 1999 (11.02.99)</td> <td></td> </tr> <tr> <td>US</td> <td>60/154,336 (CIP)</td> <td></td> </tr> <tr> <td>Filed on</td> <td>22 April 1999 (22.04.99)</td> <td></td> </tr> </table> <p>(71) Applicant (for all designated States except US): INCYTE PHARMACEUTICALS, INC. [US/US]; 3174 Porter Drive, Palo Alto, CA 94304 (US).</p>	60/172,216	20 October 1998 (20.10.98)	US	60/118,559	4 February 1999 (04.02.99)	US	60/172,229	11 February 1999 (11.02.99)	US	60/154,336	22 April 1999 (22.04.99)	US	US	60/172,216 (CIP)		Filed on	20 October 1998 (20.10.98)		US	60/118,559 (CIP)		Filed on	4 February 1999 (04.02.99)		US	60/172,229 (CIP)		Filed on	11 February 1999 (11.02.99)		US	60/154,336 (CIP)		Filed on	22 April 1999 (22.04.99)		<p>(72) Inventors; and (75) Inventors/Applicants (for US only): TANG, Y., Tom [CN/US]; 4230 Ranwick Court, San Jose, CA 95118 (US). YUE, Henry [US/US]; 826 Lois Avenue, Sunnyvale, CA 94087 (US). HILLMAN, Jennifer, L. [US/US]; 230 Monroe Drive, #12, Mountain View, CA 94040 (US). GUEGLER, Karl, J. [CH/US]; 1048 Oakland Avenue, Menlo Park, CA 94025 (US). CORLEY, Neil, C. [US/US]; 1240 Dale Avenue, #30, Mountain View, CA 94040 (US). LAL, Preeti [IN/US]; 2382 Lass Drive, Santa Clara, CA 95054 (US). AZIMZAI, Yalda [US/US]; 2045 Rock Springs Drive, Hayward, CA 94545 (US). BAUGHN, Mariah, R. [US/US]; 14244 Santiago Road, San Leandro, CA 94577 (US). YANG, Junming [CN/US]; 7136 Clarendon Street, San Jose, CA 95129 (US). SHIH, Leo, L. [US/US]; Apartment B, 1081 Tanland Drive, Palo Alto, CA 94304 (US).</p> <p>(74) Agents: BILLINGS, Lucy, J. et al.; Incyte Pharmaceuticals, Inc., 3174 Porter Drive, Palo Alto, CA 94304 (US).</p> <p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p style="text-align: center;">Published</p> <p style="text-align: center;"><i>Without international search report and to be republished upon receipt of that report.</i></p>																									
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US	60/154,336 (CIP)																																																													
Filed on	22 April 1999 (22.04.99)																																																													
<p>(54) Title: PROLIFERATION AND APOPTOSIS RELATED PROTEINS</p>																																																														
<table style="width: 100%; border: none;"> <tr> <td style="width: 5%;">1</td> <td style="width: 85%;">MSRTMARTRPGQLG--RVTGAGGWGSAAVC</td> <td style="width: 10%;">1342011</td> </tr> <tr> <td>1</td> <td>MA TPVP P P P S P R H L R L L R L L L S G - - - - - L I</td> <td>GI452276</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>29</td> <td>RGRALRGREPALPSASF PDV AAC PGSLDCA</td> <td>1342011</td> </tr> <tr> <td>25</td> <td>LGAALNG- - - - - ATARR PDATTCPGSLDCA</td> <td>GI452276</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>59</td> <td>LKRRARC PPGAHAACG PCLQPFQEDQOGLCV</td> <td>1342011</td> </tr> <tr> <td>50</td> <td>LKRRARKCPPGAHAACG PCLQSFOEDQRGF CV</td> <td>GI452276</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>89</td> <td>PRMRRP PGGGR P QPRLEDEIDFLAQELA- -</td> <td>1342011</td> </tr> <tr> <td>80</td> <td>PRKHLSSGELGLPQPRLEEEIDSLAQELAL K</td> <td>GI452276</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>117</td> <td>RKESGHS- - -TPPLPKDRQRLPEPA- TLGF</td> <td>1342011</td> </tr> <tr> <td>110</td> <td>EKEAGHSRLTAQPLLERAQKLLLEPAATLGF</td> <td>GI452276</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>143</td> <td>SARGQGLELGLPSTPGTPTPTPHTSLGSPV</td> <td>1342011</td> </tr> <tr> <td>140</td> <td>SQWGORLEPGLPSTHTGTSSTPTPHTSLSSRA</td> <td>GI452276</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td>173</td> <td>SSDPVHMSPLEPRGGQGDGLALVLI LAF CV</td> <td>1342011</td> </tr> <tr> <td>170</td> <td>SSSGPVQMSPLEPQGRHGNGLTLVLI LAF CL</td> <td>GI452276</td> </tr> </table>			1	MSRTMARTRPGQLG--RVTGAGGWGSAAVC	1342011	1	MA TPVP P P P S P R H L R L L R L L L S G - - - - - L I	GI452276				29	RGRALRGREPALPSASF PDV AAC PGSLDCA	1342011	25	LGAALNG- - - - - ATARR PDATTCPGSLDCA	GI452276				59	LKRRARC PPGAHAACG PCLQPFQEDQOGLCV	1342011	50	LKRRARKCPPGAHAACG PCLQSFOEDQRGF CV	GI452276				89	PRMRRP PGGGR P QPRLEDEIDFLAQELA- -	1342011	80	PRKHLSSGELGLPQPRLEEEIDSLAQELAL K	GI452276				117	RKESGHS- - -TPPLPKDRQRLPEPA- TLGF	1342011	110	EKEAGHSRLTAQPLLERAQKLLLEPAATLGF	GI452276				143	SARGQGLELGLPSTPGTPTPTPHTSLGSPV	1342011	140	SQWGORLEPGLPSTHTGTSSTPTPHTSLSSRA	GI452276				173	SSDPVHMSPLEPRGGQGDGLALVLI LAF CV	1342011	170	SSSGPVQMSPLEPQGRHGNGLTLVLI LAF CL	GI452276
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<p>(57) Abstract</p> <p>The invention provides human proliferation and apoptosis related proteins (PROAP) and polynucleotides which identify and encode PROAP. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with expression of PROAP.</p>																																																														

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